west virginia department of environmental protection

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GENERAL PERMIT REGISTRATION APPLICATION ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Registration No.:	G50-B060A
Plant ID No.:	041-00061
Applicant:	C&J Well Services, Inc.
Facility Name:	C&J Energy Services Facility
Location:	Jane Lew, Lewis County
SIC Code:	3273
Application Type:	Modification
Received Date:	April 14, 2017
Engineer Assigned:	Thornton E. Martin Jr.
Fee Amount:	$500.00
Date Received:	April 18, 2017
Complete Date:	May 15, 2017
Applicant Ad Date:	April 26, 2017
Newspaper:	*The Weston Democrat*
UTM's:	Easting: 552.986 km Northing: 4326.628 km Zone: 17
Description:	Applicant is proposing to modify a concrete batch plant under their new name C&J Well Services, Inc. (formerly Nabors Completion & Prod. Services Co.). There will be six (6) storage silos, a scale tank / blend tank (WH-1), two (2) storage tanks and one (1) baghouse. Cement processed at the site will be mixed in the trucks. The facility will produce a maximum of 22,000 tons per year of cement.

DESCRIPTION OF PROCESS

Cement, fly ash, and rock dusts are stored in fully enclosed silos (BS-1 to BS-6). These materials are unloaded pneumatically into their respective storage silos from delivery trucks.

Cement, fly ash, and rock dust are conveyed into the weigh hopper (scale tank). Small amount of additives are added manually into the scale tank. Mixed raw materials from the scale tank are then transferred to the weight batch blender and finally to the mixer truck for delivery to customers.

To minimize fugitive emissions, materials are conveyed to the scale tank and weight batch blender via fully enclosed conveyors. Emissions from unloading of materials into the silos are controlled by the dust collector (APCD-1) installed on the reclaim silo.

All emissions/ materials captured by the dust collector are stored in the reclaim silo and used for lower grade cement mix products.

The facility has two 6500-gal storage tanks for 35% hydrochloric acid. The hydrochloric acid is delivered via trucks and is further diluted prior to delivery to customers. HCl emissions from the storage tanks are controlled by a water scrubber.

C&J Well Services, Inc. proposes to utilize the following equipment at the Jane Lew, WV facility:

Table 1: Equipment List

Equipment ID No.	Description	Maximum Production Rate		Control Equipment[1]
		Hourly Tons/HR	Annual Tons/YR	
WH-1	Scale Tank / Blend Tank	25	22,000	OT, FE, APCD-1
APCD-1	Donaldson Torit CPV-8			
		Storage Capacity	Maximum Yearly Throughput	
BS-1	Storage Silo - Cement	240 tons	4,000 tons / yr	OT, FE, APCD-1
BS-2	Storage Silo - Cement	240 tons	4,000 tons / yr	OT, FE, APCD-1
BS-3	Storage Silo - Cement	210 tons	4,000 tons / yr	OT, FE, APCD-1
BS-4	Storage Silo - Cement	180 tons	4,000 tons / yr	OT, FE, APCD-1
BS-5	Storage Silo - Fly Ash	145 tons	3,000 tons / yr	OT, FE, APCD-1
BS-6	Storage Silo - Rock Dust	240 tons	3,000 tons / yr	OT, FE, APCD-1
T-1	Storage Tank - Hydrochloric Acid	6,500 gal	140,000 gal / yr	N
T-2	Storage Tank - Hydrochloric Acid	6,500 gal	140,000 gal / yr	N

[1] OT - pneumatic conveyor, FE - Full Enclosure; APCD-1 - Air Pollution Control Device (>99% Capture Efficiency); N - None

SITE INSPECTION

On January 31, 2017, a Notice of Violation (NOV) was issued to the facility for exceeding the maximum annual production permit limit and installation of new storage silos and associated equipment. In reference to the NOV response letter dated March 3, 2017 from C&J Well Services, Inc., this submittal addresses the non-compliances cited in the NOV including the projected increase in annual throughput.

Directions: Travel I-79 North and take Exit 105 (Jane Lew). Make a right off the exit onto Hackers Creek Road. Go approximately 1 mile, and the site will be located on the right side of the road.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

A baghouse and silo vent will be used to capture particulate matter from the storage silos. Cement trucks weighing an average of 24 tons will travel on approximately 0.1 miles of unpaved haulroads. When necessary, water trucks and sprays will use chemical suppression to keep fugitive dust at a minimum. The water trucks will be used more frequently during dryer periods.

Emissions have been calculated by the applicant using the WVDAQ G50-B emission calculation spreadsheets. The storage tanks containing 35% hydrochloric acid (HCl) emissions were calculated using TANKS 4.0.9d and are estimated to emit a maximum of 2.37 lbs. per hour and 0.25 tons per year (uncontrolled loading, working and breathing losses).

A detailed breakdown of the facility's maximum controlled emissions:

Table 2: Detailed Facility Emissions

Emission Source	Controlled PM Emissions		Controlled PM_{10} Emissions	
	lb/hour	TPY	lb/hour	TPY
Transfer Point Emissions	7.19	2.89	2.13	0.83
Point Source Emissions Total	**7.19**	**2.89**	**2.13**	**0.83**
Unpaved Haulroads	7.02	3.09	2.07	0.91
Fugitive Emissions Total	**7.02**	**3.09**	**2.07**	**0.91**
FACILITY EMISSIONS TOTAL	**14.21**	**5.98**	**4.20**	**1.75**

The maximum controlled change in emissions for C&J Well Services, Inc.'s modified Jane Lew facility are summarized in the following table:

Table 3: Facility Emissions Change

Emission Source	Controlled PM Emissions		Controlled PM_{10} Emissions	
	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions				
Unpaved Haulroad Emissions	6.99	2.95	2.06	0.87
Fugitive Emissions Total	*6.99*	*2.95*	*2.06*	*0.87*
Point Source Emissions				
Transfer Point Emissions	6.82	2.01	2.00	0.27
Point Source Emissions Total (PTE)	*6.82*	*2.01*	*2.00*	*0.27*
FACILITY EMISSIONS TOTAL	**13.81**	**4.96**	**4.06**	**1.14**

GENERAL PERMIT ELIGIBILITY

C&J Well Services, Inc.'s application to modify a concrete batch plant is eligible for a Class II General Permit registration to modify because:

1. It has the SIC of 3273;
2. It is not a major source as defined in 45CSR14, 45CSR19 or 45CSR30;
3. It is not subject to 45CSR2, 45CSR3, 45CSR14, 45CSR16, 45CSR19, or 45CSR30;
4. It is not a cement manufacturing plant (NAICS 327310; SIC 3241), concrete page manufacturing plant (NAICS 327332; SIC 3272) or clay brick or structural clay tile manufacturing plant (NAICS 327121; SIC 3251);
5. It meets the definition of concrete batch plant set forth in DRAFT class II General Permit G50-B;
6. It does not incorporate:
   a. A mine, quarry or crushing and screening operation;
   b. A highwall truck dump;
   c. A petroleum liquid storage vessel or tank greater than 39,889 gallons capacity; or
   d. A petroleum liquid storage vessel or tank greater than or equal to 19,812 gallons capacity and a working true vapor pressure which exceeds 15.0 kPa (2.17 psia);
7. It will not require an individual air quality permit review process and/or individual permit provisions to address the emission of a regulated pollutant or to incorporate regulatory requirements other than those established by 45CSR7, 45CSR13, and 45CSR17;
8. It is not located in or does not significantly impact the area of Brooke County west of State Route 2, north of an extension of the southern boundary of Steubenville Township in Jefferson County, Ohio and south of the Market Street Bridge;
9. It is not located within the boundaries of or which may significantly impact the Weirton nonattainment area; or
10. It is not located in or which may significantly impact an area which has been determined to be a PM10 maintenance or nonattainment area.

State rules 45CSR7, 45CSR13, 45CSR17, and 45CSR22 apply to the facility. No federal regulations apply.

RECOMMENDATION TO DIRECTOR

C&J Well Services, Inc.'s request to modify a concrete batch plant at Jane Lew, Lewis County, WVand meets the requirements of General Permit G50-B and all applicable rules. Therefore, it should be granted a General Permit Registration to Modify the Jane Lew, WV Facility.

Thornton E. Martin Jr.
Permit Engineer

May 15, 2017
Date